

CLINICAL STUDY COMPARING TOPICAL DEXAMETHASONE AND ARTIFICIAL TEAR DROPS IN THE TREATMENT OF VIRAL CONJUNCTIVITIS

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Abstract. *This study compares the effectiveness of topical dexamethasone and artificial tear drops in treating viral conjunctivitis. Dexamethasone provides rapid relief of inflammation but requires cautious use due to possible side effects. Artificial tears are safe for long-term use, reducing discomfort and supporting ocular surface hydration. Both approaches show benefits, and individualized or combined treatment may yield optimal outcomes.*

Keywords: *Viral conjunctivitis; topical dexamethasone; artificial tear drops; ocular inflammation; symptomatic treatment.*

Introduction

Viral conjunctivitis is one of the most common inflammatory diseases of the ocular surface, with a high prevalence among both children and adults. The condition is most often associated with adenoviruses and manifests with symptoms such as eye redness, burning sensation, tearing, and temporary visual impairment. It significantly affects patients' quality of life and, due to its contagious nature, also represents an important public health concern. The management of viral conjunctivitis is mainly symptomatic. In this regard, topical dexamethasone drops may reduce inflammation and provide faster clinical improvement, whereas artificial tear drops play an important role in moisturizing the ocular surface and relieving discomfort. This clinical study is aimed at comparing the effectiveness of these two therapeutic approaches in the treatment of viral conjunctivitis.

Main part

Viral conjunctivitis is one of the most common inflammatory diseases of the ocular surface, primarily caused by adenoviruses. It presents with redness, swelling, tearing, irritation, and temporary visual impairment, which significantly impacts patients' quality of life. The disease is highly contagious and can spread rapidly in schools, kindergartens, and other crowded environments, posing not only an individual health problem but also a public health concern. Due to its wide prevalence and negative impact, finding effective treatment strategies remains a priority in ophthalmology.

Currently, there is no specific antiviral therapy widely used for viral conjunctivitis. Management is largely symptomatic, focusing on relieving discomfort and controlling inflammation. Common therapeutic options include topical corticosteroids and artificial tear drops. Corticosteroids primarily target inflammation, leading to rapid improvement in clinical signs, while artificial tears maintain hydration of the ocular surface and reduce irritation. Both approaches are effective, but they differ in their mechanism of action and clinical outcomes, which makes comparison between them important in practice. Dexamethasone is a potent corticosteroid with strong anti-inflammatory properties. In cases of viral conjunctivitis, it helps suppress the inflammatory response in the conjunctiva, resulting in quick relief from redness, swelling, and irritation. This rapid reduction of symptoms improves patient comfort and facilitates recovery.

However, prolonged use of corticosteroids carries potential risks, such as secondary infections and increased intraocular pressure, which is why they must be used cautiously under medical supervision. Despite these limitations, dexamethasone remains an important therapeutic option for controlling acute inflammatory symptoms.

Artificial tear drops play a key role in supporting the natural protective mechanisms of the eye. In viral conjunctivitis, dryness and instability of the tear film worsen discomfort and irritation. Artificial tears help restore ocular hydration, flush out inflammatory mediators and viral particles, and create a protective layer over the ocular surface. Their use reduces burning and foreign body sensation, while being safe for long-term application. Unlike corticosteroids, they do not carry significant risks, which makes them a reliable symptomatic treatment option for many patients. The primary aim of this clinical study is to compare the therapeutic effectiveness of topical dexamethasone and artificial tear drops in patients with viral conjunctivitis. The study seeks to determine their respective strengths and limitations in relieving symptoms and improving recovery. It is expected that dexamethasone will provide faster control of inflammation and visible signs of the disease, while artificial tears will ensure better comfort and ocular surface protection. The findings may help clinicians choose the most appropriate or combined treatment approach, leading to more effective patient care in clinical practice.

Conclusion

The comparative evaluation of topical dexamethasone and artificial tear drops in the treatment of viral conjunctivitis highlights their complementary roles. Dexamethasone provides rapid suppression of inflammation, effectively reducing redness, swelling, and irritation, but requires careful monitoring due to potential side effects. On the other hand, artificial tear drops offer safe and well-tolerated symptomatic relief by moisturizing the ocular surface and improving patient comfort, particularly for long-term use. The findings suggest that both treatments can be effective depending on clinical presentation, and in some cases, a combined or sequential approach may yield optimal results. This underscores the importance of individualized treatment strategies in managing viral conjunctivitis.

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